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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,376	10/22/2001	Richard P. Stoyhoff	LEC 0156 PUS	7272

22045 7590 10/21/2003

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EXAMINER

LEO, LEONARD R

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 10/21/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/004,376

Applicant(s)

STOYNOFF ET AL.

Examiner

Leonard R. Leo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,13-16 and 18-26 is/are pending in the application.
- 4a) Of the above claim(s) 19-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,13,15,16 and 18 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 7, 2003 has been entered.

Claims 2-3, 7-12 and 17 are cancelled, claims 1, 4-6, 13-16 and 18-26 are pending, and claim 19 remains withdrawn.

Election/Restrictions

Newly submitted claims 20-26 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1, 4-6, 13-16 and 18, drawn to a heat exchanger, classified in class 165, subclass 135.
- II. Claims 20-26, drawn to an apparatus for manufacturing a fin, classified in class 29, subclass 727.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a different product or (2) that the product as claimed can be made by another and

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materially different apparatus (MPEP § 806.05(g)). In this case, punching or pressing and expanding, e.g. expanded metal.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 20-26 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Objections

Claim 14 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 14 reciting "louvers located within only one of the cores" does not further limit claim 1 reciting "louvers in the first and second fins."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6, 13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martins et al in view of Sugimoto et al (5,992,514) or Yamanaka et al.

Martins et al discloses all the claimed limitations except the thermal break having a length exceeding one convolution.

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Sugimoto et al (5,992,514) or Yamanaka et al discloses a multiple core heat exchanger comprising a condenser core 2 having a plurality of first tubes 21 and louvered fins 22, and a radiator core 3 having a plurality of tubes 31 and louvered fins 32; where the fins are integral and formed with thermal breaks 47 having a length exceeding one convolution (Figure 7-8 of Sugimoto et al and Figures 3-4 of Yamanaka et al) for the purpose of minimizing heat transfer.

Since Martins et al and Sugimoto et al (5,992,514) or Yamanaka et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Sugimoto et al (5,992,514) or Yamanaka et al would have been recognized in the pertinent art of Martins et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Martins et al thermal breaks having a length exceeding one convolution for the purpose of minimizing heat transfer as recognized by Sugimoto et al (5,992,514) or Yamanaka et al.

Regarding claim 1, the recitation of "by teeth in intermeshing forming rolls with the serpentine fins and louvers in one pass through the forming rolls" is considered to be a method limitation in an apparatus claim, which bears no patentable weight in this instance. See MPEP 2113.

Regarding claims 4-5, Martins et al (column 3, lines 57-65) discloses the condenser fins have a width smaller than the radiator fins. Furthermore, one of ordinary skill in the art would employ a fin width to achieve a desired heat transfer and correspond to the width of the respective core.

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Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martins et al in view of Sugimoto et al (5,992,514) or Yamanaka et al as applied to claims 1, 4-6, 13 and 15-16 above, and further in view of Motegi et al.

The combined teachings of Martins et al and Sugimoto et al (5,992,514) or Yamanaka et al lacks a non-uniform length slit.

Motegi et al discloses a heat exchanger (Figure 2) comprising first and second rows of tubes 11; a common fin with thermal fuses 32 and slits 31 disposed between the rows; and non-uniform slit 33 for the purpose of minimizing thermal conduction and supporting the fin assembly.

Since Martins et al and Motegi et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Motegi et al would have been recognized in the pertinent art of Martins et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Martins et al a non-uniform length slit for the purpose of minimizing thermal conduction and supporting the fin assembly as recognized by Motegi et al.

Response to Arguments

The anticipatory rejections in view of Makino et al, and Nishishita et al (WO 99/26035 and WO 99/53253) are withdrawn.

The rejection in view of Tategami et al is withdrawn in view of cancellation of claim 11.

Regarding applicants' remarks, the combination of Martins et al in view of Sugimoto et al (5,992,514) or Yamanaka et al is believed to meet the claimed invention. Martins et al discloses forming thermal breaks in integral serpentine fins in a multiple core heat exchanger

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without removal of material. Sugimoto et al (5,992,514) or Yamanaka et al teach one of ordinary skill in the art to employ a thermal break having a length exceeding one convolution to minimize heat transfer.

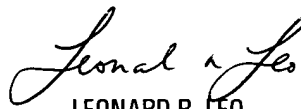
Claim 18 does not incorporate the limitations of claim 1 and 16. The rejection in view of Motegi et al teaches one of ordinary skill in the art to employ a non-uniform length slit to minimize heat transfer and support the fin assembly.

Although claim 14 has not been rejected, the merits of the claim in its present form cannot be ascertained.

Conclusion

Any inquiry of a general nature, relating to the status of this application or clerical nature (i.e. missing or incomplete references, missing or incomplete Office actions or forms) should be directed to the Technology Center 3700 Customer Service whose telephone number is (703) 306-5648. Status of the application may also be obtained from the Internet: <http://pair.uspto.gov/cgi-bin/final/home.pl>

Any inquiry concerning this Office action should be directed to Leonard R. Leo whose telephone number is (703) 308-2611.


LEONARD R. LEO
PRIMARY EXAMINER
ART UNIT 3753

October 17, 2003